

Application No. 09/847,009
Attorney Docket No. 24827A

IN THE CLAIMS

1. (CURRENTLY AMENDED) A substantially non-discoloring sizing composition for reinforcing fiber materials, comprising:

~~an emulsion comprising~~ from about 35 – 70% by weight of a grafted polyolefin emulsion;

two or more saturated fatty acids; and

one or more silane coupling agents.

2. (ORIGINAL) The sizing composition of claim 1, wherein the emulsion comprises an aqueous solvent.

3. (ORIGINAL) The sizing composition of claim 1, wherein the grafted polyolefin comprises a homopolymer of polypropylene or a random copolymer of propylene and ethylene.

4. (CURRENTLY AMENDED) The sizing composition of claim 1, wherein the grafted polyolefin comprises a grafted portion selected from the group consisting of acid anhydride, carboxylic acid, hydroxyl, amino, amide, ester, isocyanate, double bonds, and epoxy.

5. (ORIGINAL) The sizing composition of claim 1, wherein said sizing composition is without a color compensating additive.

6. (ORIGINAL) The sizing composition of claim 1, wherein the grafted polyolefin has a level of grafting between about 0.05% to about 15% by weight based on the total weight of the grafted polyolefin.

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7. (ORIGINAL) The sizing composition of claim 1, wherein the saturated fatty acids contain a C₈ - C₃₆ saturated fatty acid.
8. (CURRENTLY AMENDED) The sizing composition of claim 1, wherein the saturated fatty acids comprise two or more saturated fatty acids selected from the group consisting of myristic acid, palmitic acid, pentadecanoic acid, margeric acid, stearic acid, behenic acid, and sebacic acid.
9. (ORIGINAL) The sizing composition of claim 1, wherein the saturated fatty acids comprise an aqueous mixture of palmitic acid, sebacic acid, and stearic acid.
10. (ORIGINAL) The sizing composition of claim 1, wherein the emulsion comprises a grafted polyolefin comprising an aqueous emulsion of a polypropylene grafted with maleic anhydride.
11. (ORIGINAL) The sizing composition of claim 1, wherein the silane coupling agent is an amino silane coupling agent.
12. (ORIGINAL) The sizing composition of claim 1, further comprising an antifoaming agent.
13. (ORIGINAL) The sizing composition of claim 1, having a viscosity of from about 8 cPs to about 150 cPs.

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14. (ORIGINAL) A fiber coated with the sizing composition of claim 1.
15. (ORIGINAL) A composite comprising the fiber of claim 14.
16. (CURRENTLY AMENDED) A method of manufacturing a substantially non-discoloring reinforcing fiber material comprising:
- a) preparing a sizing composition comprising ~~an emulsion comprising:~~
from about 35 – 70% by weight of a grafted polyolefin emulsion,
two or more saturated fatty acids, and
one or more silane coupling agents;
 - b) contacting a plurality of filaments of a reinforcing fiber material with the sizing composition; and
 - c) allowing the sizing composition to solidify on the surfaces of the plurality of filaments to form a substantially non-discoloring reinforcing fiber material.
17. (ORIGINAL) The method of claim 16, wherein the step of contacting comprises contacting said filaments with the sizing composition immediately after they are continuously formed from a fiber-forming bushing.
18. (CURRENTLY AMENDED) A method of making a fiber-reinforced composite having minimal discoloration, comprising:

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a) applying a substantially non-discoloring sizing composition comprising—~~an emulsion comprising:~~

from about 35 – 70% by weight of a grafted polyolefin emulsion,

two or more saturated fatty acids, and

one or more silane coupling agents

on the surfaces of a reinforcing fiber material to form a sized reinforcing fiber material; and

b) compounding and molding the sized reinforcing fiber material with a matrix resin to form a fiber-reinforced composite having minimal discoloration.

19. (CURRENTLY AMENDED) The method of claim 18, wherein the matrix resin is selected from the group consisting of polyolefins, polyesters, polyamides, polyacrylamides, polyimides, polyethers, polyvinylethers, polystyrenes, polyoxides, polycarbonates, polysiloxanes, polysulfones, polyanhydrides, polyimines, epoxy, polyacrylics, polyvinylesters, polyurethane, maleic resins, urea resins, melamine resins, phenol resins, furan resins, polymer blends, alloys, and mixtures thereof.

20. (ORIGINAL) The method of claim 18, wherein the step of compounding and molding the sized reinforcing fiber material is selected from extrusion molding, compression molding and injection molding.

21. (ORIGINAL) The method of claim 18, wherein the composite further comprises a polyolefin as a matrix resin.

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22. (CURRENTLY AMENDED) The method of claim 18, wherein the composite comprises a second coupling agent in addition to the one or more silane coupling agents of the sizing composition.